April 6, 2012

Ms. Kathleen Baskin
Director of Water Policy
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, 9th floor
Boston, MA 02114

Dear Ms. Baskin,

Thank you for the opportunity for the Berkshire Environmental Action Team (BEAT) to comment on the Sustainable Water Management Initiative (SWMI) draft framework, dated 2/3/12.

BEAT is a 501(c)3 non-profit organization with a mission to protect the environment for wildlife. BEAT is concerned about the potentially devastating impacts of climate change on ecosystems and biodiversity. Wildlife will need to move to adapt and it is essential that aquatic wildlife as well as terrestrial wildlife that spends time in and along our streams and rivers, be able to move up and down the river corridors. Climate change is already having a devastating impact in western Massachusetts. According to the Massachusetts Climate Change Report (p.19), "…by 2100, the current 100-year riverine flood is expected to occur every one to two years under both the low- and high-emissions scenarios."

We believe the framework should start with a statement of a guiding principle to reduce the effect of our water use on the natural riverine flows of our waterways.

Having healthy streams and rivers is essential to a thriving economy. The Sustainable Water Management Initiative framework should be a critical step in ensuring the health of our streams and rivers.

The Berkshires are heavily dependent on our natural landscape. According to a study commissioned by the Berkshire Visitor's Bureau and released in 2006:

- 73 percent of visitors see the Berkshires as a combination of beautiful scenery and cultural enrichment.
- When asked what first comes to mind when they think of the Berkshires, 51 percent think of beautiful scenery, 36 percent think of the scenery and culture equally, and 7 percent think of culture first.
- More than 95 percent of visitors rated their experience as either "very good" or "excellent," and just as many would recommend the area to friends and family.
- 90 percent of previous visitors say they plan to return.

The Berkshires need to have our ecosystems intact, and that includes our riverine systems flowing as nature intended with a full complement of fish and other animals in them, using them, and depending upon them. We do not believe the Sustainable Water Management Initiative (SWMI) draft framework, dated 2/3/12 fulfills this requirement.

We appreciate that the state invested significant resources into developing the science necessary to understand how much water rivers need to stay healthy. By linking the flows in rivers to their biological health, the science now forms a solid foundation for a water allocation and management policy to protect the ecology of our rivers and streams. The science strengthens our argument for improving water management under the Water Management Act and provides a guide to restore flows to their natural state.

It is a shame that while the state's scientists provide great data and analyses, the state then fails to use these data and analyses as a basis for their decisions.

The state must, but so far has failed to, establish a protective "Safe Yield" – or looked at from another perspective, a "hands-off" minimum flow that if reached would prevent any further water withdrawal from a river. We do not advocate allowing withdrawals that might reach this safe yield, but we demand having a back stop in place to protect our rivers from over withdrawal.

BEAT agrees with the Ipswich River Watershed Initiative:

> By law, safe yield is the maximum amount of water that can be pumped continuously from a water source, without fail, even during the driest period.[1] DEP acknowledges that safe yield includes environmental protection factors, including the ecological health of river systems, as well as hydrologic factors.[2] DEP also considers safe yield to be "the fundamental concept" of the Water Management Act.
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> Safe yield is important because it sets a limit on the amount of water that can be withdrawn, so that water supplies will not be at risk of failure during dry periods and so that rivers will not be depleted beyond safe levels due to water withdrawals.

It is critical to the health of the economy in the Berkshires, as well as the health of our ecosystems that a safe yield be developed that truly protects our riverine systems from being depleted beyond safe levels.

The state's version of "Safe Yield" under the Water Management Act is not acceptable and certainly is not safe for the environment. By separating the Safe Yield numbers from the seasonal derivation of those numbers, the agencies have created a Yield that offers no seasonal protection to our streams. If the "Safe Yield" volumes were withdrawn evenly throughout the year, all basins within Berkshire County[3] would be pumped below safe levels for months when flows are below Safe Yield, as the charts below make clear.

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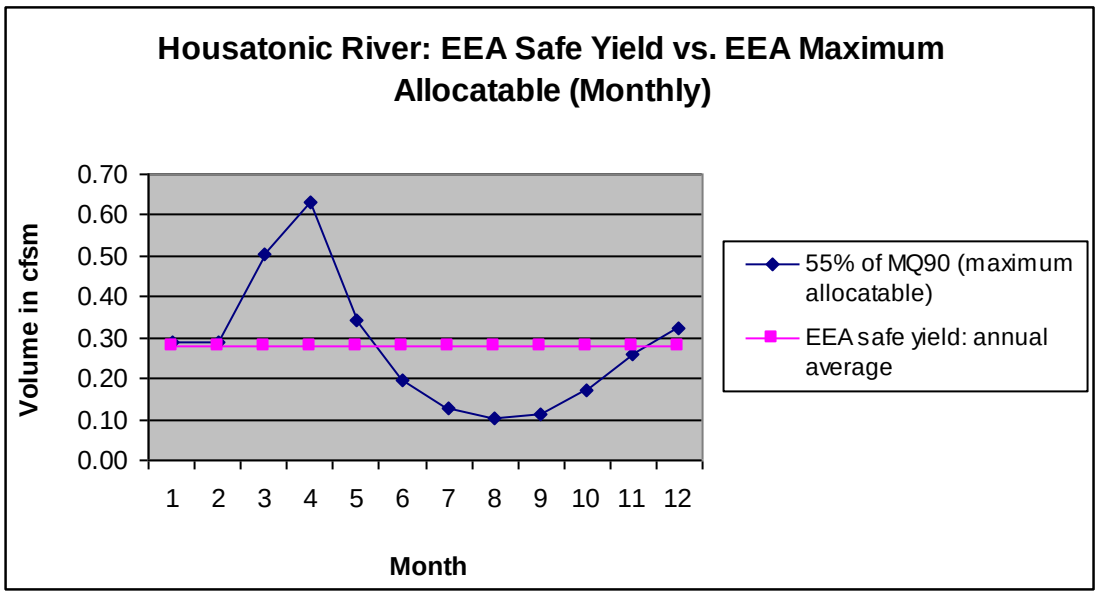
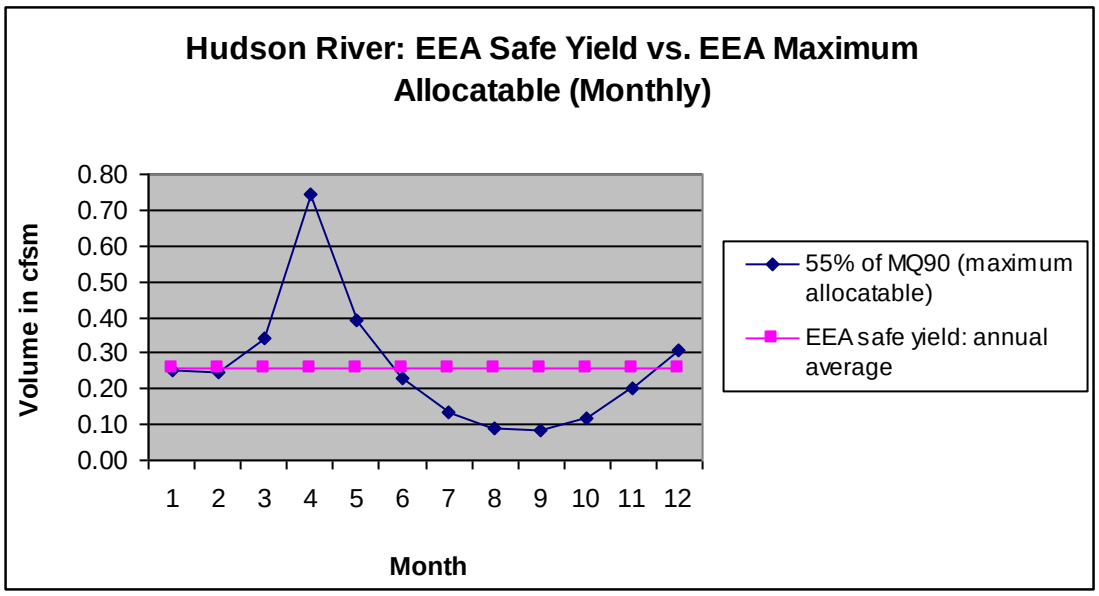
[1] "Safe yield", the maximum dependable withdrawals that can be made continuously from a water source including ground or surface water during a period of years in which the probable driest period or period of greatest water deficiency is likely to occur; provided, however, that such dependability is relative and is a function of storage and drought probability. "Water source", any natural or artificial aquifer or body of surface water, including its watershed where ground and surface water sources are interconnected in a single hydrological system.M.G.L. Ch. 21G Section 2.

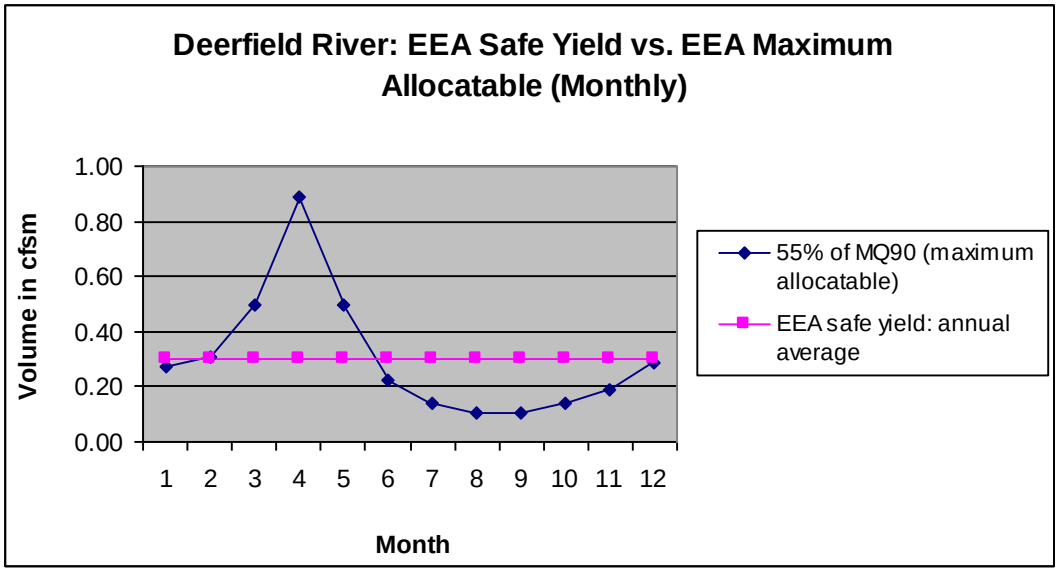
[2] http://www.mass.gov/dep/water/resources/safeyield.htm

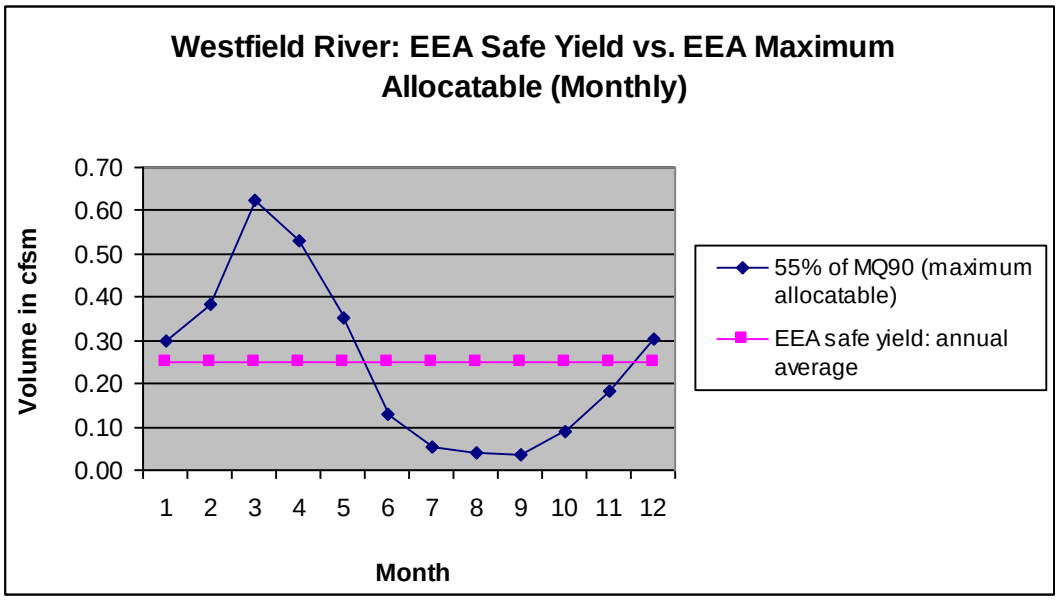
[3] The five watershed basins in Berkshire County are the Housatonic, Hudson (Hoosic), Deerfield, Westfield, and Farmington.

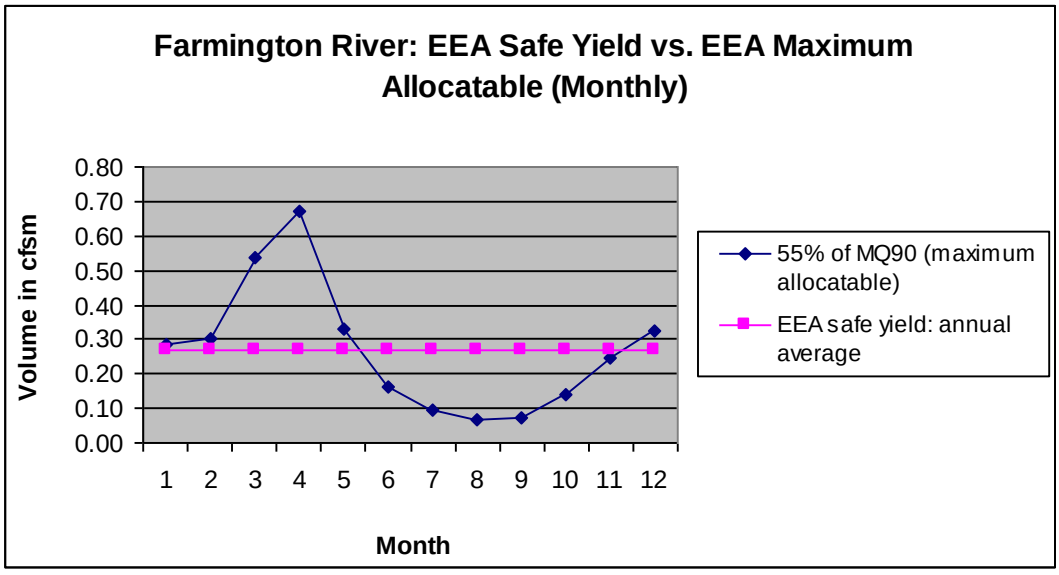
By the science on which SWMI is based, there are defined limits of acceptable alteration to August flows. These limits are: 3% for Category 1; 10% for Category 2; and 25% for Category 3. Anything beyond Category 3 is considered to be degraded or altered beyond acceptable limits. These limits are incorporated into streamflow criteria. They imply that 97%/90%/75% of the August median flow should remain in the river to provide reasonable protection of fisheries. (Higher flows should remain in the river during other months.) Development of a credible Safe Yield methodology should be assigned to the U.S.Geological Survey, in an objective, peer-reviewed process.






Deerfield River: EEA Safe Yield vs. EEA Maximum Allocatable (Monthly)
Volume in cfsm
1.00
0.80
0.60
0.40
0.20
0.00
1 2 3 4 5 6 7 8 9 10 11 12
Month
55% of MQ90 (maximum allocatable)
EEA safe yield: annual average


Westfield River: EEA Safe Yield vs. EEA Maximum Allocatable (Monthly)
Volume in cfsm
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1 2 3 4 5 6 7 8 9 10 11 12
Month
55% of MQ90 (maximum allocatable)
EEA safe yield: annual average


Farmington River: EEA Safe Yield vs. EEA Maximum Allocatable (Monthly)
Volume in cfsm
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1 2 3 4 5 6 7 8 9 10 11 12
Month
55% of MQ90 (maximum allocatable)
EEA safe yield: annual average

BEAT believes "baseline" should refer to a natural state – not some current state of water withdrawal that may already be having a significant impact on riverine systems. All water withdrawal should be judged on how it impacts the natural riverine flow – not how it impacts the current flow as humans have already impacted it.

In the Berkshires, we are lucky that our riverine systems tend not to have already been over allocated to various water withdrawers, but that does not mean we can't do more to restore our flows to a more natural state. We believe that having healthy streams and rivers is essential to a thriving economy.

The streamflow criteria, which should be legal "standards", identify the limits of acceptable flow-alteration. We now know how much water is needed by a healthy river fish community. However, the criteria do not require restoration and do not prevent "backsliding". This is unacceptable. We should be striving for restoring natural flow and under no circumstances should we allow backsliding. Permitted withdrawals must fully minimize and mitigate their impacts.

Currently "minimizing impacts" inappropriately allows non-essential outdoor water use, even during low-flow periods in areas experiencing extreme flow-depletion. This is unacceptable; it is antithetical to sustainable water management. Watering should not be permitted in flow-depleted sub-basins during periods when flows are below safe levels for fish and ecological health.

Measures to mitigate impacts should be measureable, quantifiable and proven effective.

We must reduce excess flows – a problem in the Housatonic River. Industries that release large amounts of water creating a surfeit flow should be required to take steps to reduce those excess flows to the maximum extent feasible. We need to find better ways to send wastewater to our waterways in a more natural way and as close to where it is withdrawn as possible. Allowing wastewater to infiltrate, or at least work its way through created wetlands before flowing into our waterways seems desirable. Additionally, we should be moving away from large, centralized systems to more distributed systems that can return water close to where it is withdrawn.

Much more should be done to encourage the disconnection of all directly connect impervious areas. No new impervious areas should be allowed to connect to a directly connected system unless a much larger impervious area with higher potential pollution loads is disconnected. Preferably the direct connection to a wetland or waterway should be pulled back to an upland area and infiltrated.

More needs to be done to protect our headwater streams. These small ephemeral streams may make up a large percentage of stream miles in a watershed, and yet they have no regulatory riverfront area. In addition, in the calcareous Berkshires we have many "sinking" streams – streams that may flow above ground in the spring, but during the slightly drier times of the year these streams flow below the streambed – often just below. And yet, these stretches of river may be declared to be intermittent, even though there may be thriving native brook trout populations upstream of these sunken stretches. Once a stream is perennial, no stretch downstream should be allowed to be declared intermittent. Water withdrawals on this type of stream must take into account their unique nature.

In summary, having healthy streams and rivers is essential to a thriving economy. The Sustainable Water Management Initiative framework should be a critical step in ensuring the health of our streams and rivers. The framework should start with a statement of a guiding principal to reduce the effect of our water use on the natural riverine flows of our waterways. A truly protective Safe Yield must be established with a "hands-off" minimum that would truly protect our riverine fish. The state must use the scientific data and analyses of their scientists as a basis for their decisions.

Thank you for the opportunity to submit comments.

Sincerely,

Jane Winn
Executive Director